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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/664,631 | 09/19/2003 | Shpak Eran | 90648 | 5078 |

24628 7590 09/25/2006

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CHICAGO, IL 60606

EXAMINER

NGUYEN, TUAN HOANG

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2618

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/664,631 | ERAN ET AL. | |
| | Examiner | Art Unit | |
| | Tuan H. Nguyen | 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/19/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 11/25/2003, 12/29/2003, 01/05/2004, 06/21/2004, 01/24/2005, 04/29/2005, 08/25/2005, 12/07/2005, 06/07/2006, and 08/25/2006 has been considered by Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 12-17, 25-28, 32-34, and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hrastar et al (US PUB. 2004/0157624) in view of Melpignano et al. (U.S PUB. 2003/0003912 hereinafter, "Melpignano").

Consider claim 1, Hrastar teaches a method for mobile communication, comprising: arranging a plurality of access points in a wireless local area network (WLAN) to communicate over the air with a mobile station using a common basic

service set identification (BSSID) for all the access points (page 2 [0021]); receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station using the common BSSID (page 2 [0021]).

Hrastar does not explicitly show that sending and receiving messages over a communication medium linking the access points in order to select one of the access points to respond to the uplink signal; and transmitting a response from the selected one of the access points to the mobile station.

In the same field of endeavor, Melpignano teaches sending and receiving messages over a communication medium linking the access points in order to select one of the access points to respond to the uplink signal; and transmitting a response from the selected one of the access points to the mobile station (page 2 [0019]; page 9 [0123] and [0126]; page 10 [0137]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, sending and receiving messages over a communication medium linking the access points in order to select one of the access points to respond to the uplink signal; and transmitting a response from the selected one of the access points to the mobile station, as taught by Melpignano, in order to provide a technique for deriving and distributing information about network topology in such an arrangement and provides communication units for use in the arrangement.

Consider claim 2, Melpignano further teaches the access points are configured to communicate with the mobile station over a common frequency channel shared by all

the access points (pages 5-9 [0079], [0082], [0105], [0113], [0121], [0123]).

Consider claims 3, 16, and 33, Melpignano further teaches the access points have respective service areas, and wherein arranging the plurality of the access points comprises arranging the access points so that the service areas substantially overlap (page 9 [0124]).

Consider claims 4, 17, and 34, Melpignano further teaches arranging the plurality of the access points comprises arranging the access points to communicate with the mobile station substantially in accordance with IEEE Standard 802.11 (page 4 [0058], [0059]).

Consider claims 12, 25, and 42, Melpignano further teaches receiving the uplink signal comprises measuring a strength of the uplink signal at each of the one or more of the access points, and wherein sending and receiving the messages comprises indicating in the messages the measured strength of the uplink signal, and selecting the one of the access points to respond to the uplink signal responsively to the strength indicated in the messages (page 1 [0009]).

Consider claims 13, 26, and 43, Melpignano further teaches measuring the strength comprises measuring the strength repeatedly in response to subsequent uplink signals transmitted by the mobile station, and wherein selecting the one of the access

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points comprises selecting a different one of the access points to respond to the subsequent uplink signals, responsively to a change in the measured strength (page 7 [0097]).

Consider claim 14, Melpignano further teaches sending and receiving the messages comprises sending the messages from the access points to a manager node, which processes the messages so as to select the one of the access points to respond to the uplink signal, and sending instructions from the manager node to the selected one of the access points to transmit the response (pages 6-7 [0094] through [0098], page 8 [0111] through [0115]).

Consider claim 15, Hrastar teaches a method for mobile communication, comprising: arranging a plurality of access points in a wireless local area network (WLAN) to communicate over the air on a common frequency channel with a mobile station (page 2 [0021]); receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station on the common frequency channel (page 2 [0021]).

Hrastar does not explicitly show that conveying messages responsively to the uplink signal from the one or more of the access points over a communication medium linking the access points to a manager node; processing the messages at the manager node so as to select one of the access points to respond to the uplink signal; and transmitting a response from the selected one of the access points to the mobile station.

In the same field of endeavor, Melpignano teaches conveying messages responsively to the uplink signal from the one or more of the access points over a communication medium linking the access points to a manager node (pages 6-7 [0094] through [0098], page 8 [0111] through [0115]); processing the messages at the manager node so as to select one of the access points to respond to the uplink signal; and transmitting a response from the selected one of the access points to the mobile station (page 2 [0019]; page 9 [0123] and [0126]; page 10 [0137]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, conveying messages responsively to the uplink signal from the one or more of the access points over a communication medium linking the access points to a manager node; processing the messages at the manager node so as to select one of the access points to respond to the uplink signal; and transmitting a response from the selected one of the access points to the mobile station, as taught by Melpignano, in order to provide a technique for deriving and distributing information about network topology in such an arrangement and provides communication units for use in the arrangement.

Consider claim 27, Melpignano further teaches sending and receiving the messages comprises sending the messages from arranging the plurality of the access points comprises assigning all the access points to the same basic service set (BSS) (page 8 [0109]).

Consider claims 28 and 44, Melpignano further teaches sending and receiving the messages comprises sending the messages from the manager node comprises a plurality of management processors (pages 6-7 [0094] through [0098], page 8 [0111] through [0115]).

Consider claim 32, Hrastar teaches apparatus for mobile communication, comprising: a plurality of access points, which are arranged in a wireless local area network (WLAN) to communicate over the air on a common frequency channel with a mobile station using a common basic service set identification (BSSID) for all the access points (page 2 [0021]).

Hrastar does not explicitly show that upon receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station on the common frequency channel, to convey messages responsively to the uplink signal from the one or more of the access points over a communication medium linking the access points; and a manager node, linked to the communication medium, which is adapted to process the messages so as to select one of the access points to respond to the uplink signal, and to instruct the selected one of the access points to transmit a response to the mobile station.

In the same field of endeavor, Melpignano teaches upon receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station on the common frequency channel, to convey messages responsively to the uplink signal from the one or more of the access points over a communication medium linking

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the access points (pages 6 and 7 [0094] through [0098], page 8 [0111] through [0115]); and a manager node, linked to the communication medium, which is adapted to process the messages so as to select one of the access points to respond to the uplink signal, and to instruct the selected one of the access points to transmit a response to the mobile station (page 2 [0019]; page 9 [0123] and [0126]; page 10 [0137]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, upon receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station on the common frequency channel, to convey messages responsively to the uplink signal from the one or more of the access points over a communication medium linking the access points; and a manager node, linked to the communication medium, which is adapted to process the messages so as to select one of the access points to respond to the uplink signal, and to instruct the selected one of the access points to transmit a response to the mobile station, as taught by Melpignano, in order to provide a technique for deriving and distributing information about network topology in such an arrangement and provides communication units for use in the arrangement.

4. Claims 5-10, 18-23, and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hrastar et al (US PUB. 2004/0157624) in view of Melpignano et al. (U.S PUB. 2003/0003912 hereinafter, "Melpignano"), and further in view of Honkasalo et al. (U.S PUB. 2003/0210674 hereinafter, "Honkasalo").

Consider claims 5, 19, and 35, Hrastar and Melpignano, in combination, fails to teaches arranging the plurality of the access points comprises assigning a respective medium access control (MAC) address to each of the access points, so that each of the access points ignores uplink data messages that are not addressed to the respective MAC address.

However, Honkasalo teaches arranging the plurality of the access points comprises assigning a respective medium access control (MAC) address to each of the access points, so that each of the access points ignores uplink data messages that are not addressed to the respective MAC address (page 3 [0037]).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Honkasalo into view of Hrastar and Melpignano, in order to provide the base station of a cellular communication network the ability to preemptively control priority and duration of mobile station access by employing a scheduling method which considers one or more parameters including priority access service, quality of service, and a maximum number of bytes per transmission.

Consider claims 6, 18, and 36, Honkasalo further teaches arranging the plurality of the access points comprises configuring the access points to emulate mobile station communications, so that each of the access points acknowledges the uplink data messages that are addressed from the mobile station to the respective MAC address (page 3 [0036]).

Consider claims 7, 20, and 37, Hrastar further teaches sending and receiving the messages comprises reconfiguring the selected one of the access points temporarily to stop emulating the mobile station communications, so as to transmit an acknowledgment to a management frame transmitted by the mobile station (page 9 [0124]).

Consider claims 8, 21, and 38, Honkasalo further teaches sending and receiving the messages comprises changing the respective MAC address of the selected one of the access points temporarily, so as to cause the selected one of the access points to transmit an acknowledgment to a management frame transmitted by the mobile station (page 3 [0038]).

Consider claims 9, 22, and 39, Honkasalo further teaches transmitting the response comprises instructing the mobile station to transmit all the uplink data messages to the respective MAC address of the selected one of the access points (page 6 [0057], [0058]).

Consider claims 10, 23, and 40, Melpignano further teaches instructing the mobile station comprises sending an Address Resolution Protocol (ARP) response to the mobile station (page 2 [0025]).

Consider claims 29, and 45, Honkasalo further teaches the plurality of management processors comprises a control processor and a packet processor, and wherein processing the messages comprises selecting the one of the access points to respond to the uplink signal using the control processor, and further comprises processing uplink data packets received by the selected one of the access points using the packet processor (page 3 [0033]).

Consider claims 30, and 46, Honkasalo further teaches processing the uplink data packets comprises decrypting the uplink data packets and encrypting downlink data packets at the packet processor, for transmission by the selected one of the access points (page 5 [0049]).

Consider claims 31, and 47, Honkasalo further teaches processing the messages comprises distributing the messages for processing among the plurality of the management processors (page 3 [0031]).

5. Claims 11, 24, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hrastar et al (US PUB. 2004/0157624) in view of Melpignano et al. (U.S PUB. 2003/0003912 hereinafter, "Melpignano"), and Honkasalo et al. (U.S PUB. 2003/0210674 hereinafter, "Honkasalo"), and further in view of Chari et al. (U.S PAT. 7,016,328 hereinafter, "Chari").

Consider claims 11, 24, and 41, Hrastar, Melpignano, and Honkasalo in combination, fails to teaches subsequently to transmitting the response from the selected one of the access points, and responsively to a further uplink signal received from the mobile station, selecting a further one of the access points to communicate with the mobile station, and sending a spoofed ARP response to the mobile station instructing the mobile station to transmit all further uplink data messages to the respective MAC address of the further one of the access points.

However, Chari teaches subsequently to transmitting the response from the selected one of the access points, and responsively to a further uplink signal received from the mobile station, selecting a further one of the access points to communicate with the mobile station, and sending a spoofed ARP response to the mobile station instructing the mobile station to transmit all further uplink data messages to the respective MAC address of the further one of the access points (col. 14 lines 55-62).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Chari into view of Hrastar, Melpignano, and Honkasalo, in order to provide the wireless mesh network that allows wireless handoffs of a client between access nodes of the mesh network and does not require the client to include special hardware or software.

Conclusion

6. Any response to this action should be mailed to:

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Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

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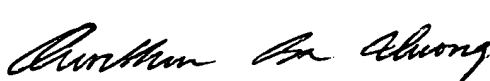
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571) 272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Nguyen ^{T.N.}
Examiner
Art Unit 2618

 9/15/06
QUOCHIEN B. VUONG
PRIMARY EXAMINER